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09/901,212	07/09/2001	Geoffrey S. Strongin	2000.054000	6397

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EXAMINER

MOORTHY, ARAVIND K

ART UNIT	PAPER NUMBER
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2131

DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/901,212

Applicant(s)

STRONGIN ET AL.

Examiner

Aravind K Moorthy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-41 are pending in the application.
2. Claims 1-41 have been rejected.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 12 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claims 12 and 13 recite the limitation "the modem driver" in the claim. There is insufficient antecedent basis for this limitation in the claim. For the sake of examination, the examiner assumes the claim recites the limitation "the driver" in the claim.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an

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international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

**4. Claims 1, 2, 5-11, 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Beckert et al U.S. Patent No. 5,794,164.**

As to claim 1, Beckert et al discloses a computer system, comprising:

a peripheral device [column 3 line 66 to column 4 line 9];

a processing unit adapted to execute a driver for interfacing with the peripheral device in a standard mode of operation and an authentication agent in a privileged mode of operation, wherein the authentication agent includes program instructions adapted to authenticate the driver [column 9, lines 36-54].

As to claim 2, Beckert et al discloses that the authentication agent includes program instructions adapted to signal a security violation in response to a driver authentication failure [column 9, lines 36-54].

As to claim 5, Beckert et al discloses that the processing unit includes a timer adapted to generate an interrupt signal for invoking the authentication agent after a predetermined interval [column 10, lines 8-23].

As to claim 6, Beckert et al discloses that the driver includes program instructions adapted to periodically invoke the authentication agent [column 10, lines 8-23].

As to claim 7, Beckert et al discloses that the privileged mode of operation comprises a system management mode of operation [column 9, lines 36-54].

As to claim 8, Beckert et al discloses that the driver includes program instructions adapted to issue a signal to the processing unit to initiate a change from the standard mode of operation to the privileged mode of operation [column 9, lines 36-54].

As to claim 9, Beckert et al discloses that the signal comprises a system management interrupt [column 10, lines 24-37].

As to claim 10, Beckert et al discloses a system basic input output system (BIOS) memory adapted to store the authentication agent [column 8 line 62 to column 9 line 16].

As to claim 11, Beckert et al discloses that the processing unit is adapted to load the authentication agent from the system BIOS into a protected memory location during initialization of the computer system [column 8 line 62 to column 9 line 16].

As to claim 14, Beckert et al discloses that the authentication agent includes program instructions adapted to prohibit further operation of the driver in response to identifying the security violation [column 9, lines 36-54].

As to claim 15, Beckert et al discloses that the authentication agent includes program instructions adapted to prohibit further operation of the processing unit in response to identifying the security violation [column 9, lines 36-54].

**5. Claims 16, 17, 20, 21, 23-29, 32 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Jain U.S. Patent No. 6,367,018 B1.**

As to claim 16, Jain discloses a communications system, comprising:

a physical layer hardware unit adapted to communicate data over a communications channel in accordance with assigned transmission parameters, the physical layer hardware unit being adapted to receive an incoming signal over

the communications channel and sample the incoming signal to generate a digital received signal [column 4, lines 12-29]; and

a processing unit adapted to execute a modem driver in a standard mode of operation and an authentication agent in a privileged mode of operation, wherein the standard mode driver includes program instructions adapted to extract control codes from the digital received signal and configure the physical layer hardware assigned transmission parameters based on the control codes, and the authentication agent includes program instructions adapted to authenticate the modem driver [column 4, lines 30-43].

As to claim 17, Jain discloses that the authentication agent includes program instructions adapted to signal a security violation in response to a modem driver authentication failure [column 5 line 43 to column 6 line 5].

As to claim 20, Jain discloses that the processing unit includes a timer adapted to generate an interrupt signal for invoking the authentication agent after a predetermined interval [column 6, lines 31-49].

As to claim 21, Jain discloses that the modem driver includes program instructions adapted to periodically invoke the authentication agent [column 6, lines 11-29].

As to claim 23, Jain discloses that the privileged mode of operation comprises a system management mode of operation [column 5 line 43 to column 6 line 5].

As to claim 24, Jain discloses that the modem driver includes program instructions adapted to issue a signal to the processing unit to initiate a change from the standard mode of operation to the privileged mode of operation [column 5 line 43 to column 6 line 5].

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As to claim 25, Jain discloses that the signal comprises a system management interrupt [column 6, lines 31-49].

As to claim 26, Jain discloses that the processing unit comprises a computer [column 4, lines 12-28].

As to claim 27, Jain discloses that the computer includes:

a processor complex adapted to execute the program instructions in the modem driver and the authentication agent [column 4, lines 30-43];

a bus coupled to the processor complex [column 4, lines 30-43]; and

an expansion card coupled to the bus, the expansion card including the physical layer hardware [column 4, lines 30-43]

As to claim 28, Jain discloses that the computer includes a system basic input output system (BIOS) memory adapted to store the authentication agent [column 5, lines 9-34].

As to claim 29, Jain discloses that the computer is adapted to load the privileged mode driver from the system BIOS into a protected memory location during initialization of the computer [column 5, lines 9-34].

As to claim 32, Jain discloses that the authentication agent includes program instructions adapted to prohibit further operation of the modem driver in response to identifying the security violation [column 5 line 43 to column 6 line 5].

As to claim 33, Jain discloses that the authentication agent includes program instructions adapted to prohibit further operation of the processing unit in response to identifying the security violation [column 5 line 43 to column 6 line 5].

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**6. Claims 34-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Scherf U.S. Patent No. 5,390,301.**

As to claims 34 and 41, Scherf discloses a method for identifying security violations in a computer system, comprising:

executing a driver in a standard processing mode of a processing unit  
[column 5, lines 9-27];

transitioning the processing unit into a privileged processing mode  
[column 5, lines 28-38]; and

authenticating the driver in the privileged processing mode [column 5,  
lines 28-38].

As to claim 35, Scherf discloses signaling a security violation in response to a driver authentication failure [column 6, lines 1-21].

As to claim 36, Scherf discloses that authenticating the driver includes:

generating a hash of at least a portion of the driver [column 5, lines 9-27];  
decrypting a digest associated with the driver [column 5, lines 54-67]; and  
comparing the hash to the digest to authenticate the driver [column 5, lines  
54-67].

As to claim 37, Scherf discloses that decrypting the digest comprises decrypting the digest using a public key [column 5, lines 54-67].

As to claim 38, Scherf discloses generating an interrupt signal for authenticating the driver in the privileged processing mode after a predetermined interval [column 6, lines 1-21].



As to claim 39, Scherf discloses prohibiting further operation of the driver in response to identifying the security violation [column 5, lines 54-67].

As to claim 40, Scherf discloses prohibiting further operation of the processing unit in response to identifying the security violation [column 5, lines 54-67].

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**7. Claims 3, 4, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beckert et al U.S. Patent No. 5,794,164 as applied to claim 1 above, and further in view of Moore U.S. Patent No. 5,343,527.**

As to claims 3 and 4, Beckert et al does not teach that the authentication agent includes program instructions adapted to generate a hash of at least a portion of the driver, decrypt a digest associated with the driver, and compare the hash to the digest to authenticate the driver. Beckert et al does not teach that the authentication agent includes program instructions adapted to decrypt the digest associated with the driver using a public key.

Moore teaches generating a hash of at least a portion of a software component, decrypt a digest associated with the software component, and compare the hash to the digest to authenticate the software component [column 7, lines 31-38]. Moore teaches that the decrypting the digest associated with the software component using a public key [column 13, lines 13-37].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Beckert et al so that the driver was authenticated by means of generating a hash on the driver. A digest associated with the driver would have been decrypted. The hash would have been compared with the digest to authenticate the driver. The digest would have been decrypted with a public key.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Beckert et al by the teaching of Moore because it provides a system that proves that the driver is indeed authentic and has not been modified. It also prevents a third party from passing off the driver as that of another [column 2, lines 13-27].

As to claim 12, Beckert et al does not teach that the authentication agent includes program instructions adapted to generate a hash of at least a portion of the driver, decrypt a digest associated with the driver using a public key, and compare the hash to the digest to authenticate the driver. Beckert et al does not teach that the system further comprises a system basic input output system (BIOS) memory adapted to store the public key.

Moore teaches generating a hash of at least a portion of a software component, decrypt a digest associated with the software component, and compare the hash to the digest to authenticate the software component [column 7, lines 31-38]. Moore teaches that the decrypting the digest associated with the software component using a public key [column 13, lines 13-37].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Beckert et al so that the driver was authenticated by means of generating a hash on the driver. A digest associated with the driver would have been decrypted. The hash would have been compared with the digest to authenticate the driver.

The digest would have been decrypted with a public key. The basic input output system (BIOS) would have stored the public key.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Beckert et al by the teaching of Moore because it provides a system that proves that the driver is indeed authentic and has not been modified. It also prevents a third party from passing off the driver as that of another [column 2, lines 13-27].

As to claim 13, Beckert et al does not teach that the authentication agent includes program instructions adapted to generate a hash of at least a portion of the driver, decrypt a digest associated with the driver using a public key, and compare the hash to the digest to authenticate the driver. Beckert et al does not teach that the peripheral device includes a memory device adapted to store the public key.

Moore teaches generating a hash of at least a portion of a software component, decrypt a digest associated with the software component, and compare the hash to the digest to authenticate the software component [column 7, lines 31-38]. Moore teaches that the decrypting the digest associated with the software component using a public key [column 13, lines 13-37].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Beckert et al so that the driver was authenticated by means of generating a hash on the driver. A digest associated with the driver would have been decrypted. The hash would have been compared with the digest to authenticate the driver. The digest would have been decrypted with a public key. The peripheral device would have stored the public key in its memory device.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Beckert et al by the teaching of Moore because it provides a system that proves that the driver is indeed authentic and has not been modified. It also prevents a third party from passing off the driver as that of another [column 2, lines 13-27].

**8. Claims 18, 19 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jain U.S. Patent No. 6,367,018 B1 as applied to claim 16 above, and further in view of Moore U.S. Patent No. 5,343,527.**

As to claims 18 and 19, Jain does not teach that the authentication agent includes program instructions adapted to generate a hash of at least a portion of the modem driver, decrypt a digest associated with the modem driver, and compare the hash to the digest to authenticate the modem driver. Jain does not teach that the authentication agent includes program instructions adapted to decrypt the digest associated with the modem driver using a public key.

Moore teaches generating a hash of at least a portion of a software component, decrypt a digest associated with the software component, and compare the hash to the digest to authenticate the software component [column 7, lines 31-38]. Moore teaches that the decrypting the digest associated with the software component using a public key [column 13, lines 13-37].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Jain so that the modem driver was authenticated by means of generating a hash on the driver. A digest associated with the modem driver would have been decrypted. The hash would have been compared with the digest to authenticate the modem driver. The digest would have been decrypted with a public key.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Jain by the teaching of Moore because it provides a system that proves that the driver is indeed authentic and has not been modified. It also prevents a third party from passing off the driver as that of another [column 2, lines 13-27].

As to claim 31, Jain does not teach that the authentication agent includes program instructions adapted to generate a hash of at least a portion of the modem driver, decrypt a digest associated with the modem driver, and compare the hash to the digest to authenticate the modem driver. Jain does not teach that the authentication agent includes program instructions adapted to decrypt the digest associated with the modem driver using a public key. Jain does not teach that the expansion card includes a memory device adapted to store the public key.

Moore teaches generating a hash of at least a portion of a software component, decrypt a digest associated with the software component, and compare the hash to the digest to authenticate the software component [column 7, lines 31-38]. Moore teaches that the decrypting the digest associated with the software component using a public key [column 13, lines 13-37].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Jain so that the modem driver was authenticated by means of generating a hash on the driver. A digest associated with the modem driver would have been decrypted. The hash would have been compared with the digest to authenticate the modem driver. The digest would have been decrypted with a public key. The public key would have been stored in the expansion card that would have included a memory device.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Jain by the teaching of Moore because it provides a system

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that proves that the driver is indeed authentic and has not been modified. It also prevents a third party from passing off the driver as that of another [column 2, lines 13-27].

**9. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jain U.S. Patent No. 6,367,018 B1 as applied to claim 16 above, and further in view of Fleming, III et al U.S. Patent No. 6,212,360 B1.**

As to claim 22, Jain does not teach that the control codes include at least one of a power level assignment, a frequency assignment, and a time slot assignment.

Fleming, III et al teaches control codes that include at least one of a power level assignment, a frequency assignment, and a tune slot assignment [column 11 line 60 to column 12 line 13].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Jain so that the control code would have been power level assignment.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Jain by the teaching of Fleming, III et al because adjusting power in the modem it helps overcome rain fades in wireless or satellite systems [column 2, lines 39-46].

**10. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jain U.S. Patent No. 6,367,018 B1 as applied to claim 16 above, and further in view of Moore U.S. Patent No. 5,343,527 and Labatte et al U.S. Patent No. 5,901,311.**

As to claim 30, Jain does not teach that the authentication agent includes program instructions adapted to generate a hash of at least a portion of the modem driver, decrypt a digest

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associated with the modem driver, and compare the hash to the digest to authenticate the modem driver. Jain does not teach that the authentication agent includes program instructions adapted to decrypt the digest associated with the modem driver using a public key. Jain does not teach that the expansion card includes a memory device adapted to store the public key. Jain does not teach a system basic input output system (BIOS) memory adapted to store the public key.

Moore teaches generating a hash of at least a portion of a software component, decrypt a digest associated with the software component, and compare the hash to the digest to authenticate the software component [column 7, lines 31-38]. Moore teaches that the decrypting the digest associated with the software component using a public key [column 13, lines 13-37].

Labatte et al teaches storing a key in the BIOS [column 10, lines 6-13].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Jain so that the modem driver was authenticated by means of generating a hash on the driver. A digest associated with the modem driver would have been decrypted. The hash would have been compared with the digest to authenticate the modem driver. The digest would have been decrypted with a public key. The public key would have been stored in the system basic input output system (BIOS) memory.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Jain by the teaching of Moore because it provides a system that proves that the driver is indeed authentic and has not been modified. It also prevents a third party from passing off the driver as that of another [column 2, lines 13-27]. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have

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modified Jain by the teaching of Labatte et al because it prevents unauthorized users from finding the key in the BIOS.

*Conclusion*

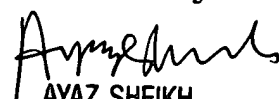
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aravind K Moorthy whose telephone number is 571-272-3793. The examiner can normally be reached on Monday-Friday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aravind K Moorthy  
April 1, 2005



  
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